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Original Communications.

A CASE OF RHINOPLASTIC OPERATION, PERFORMED FOR
THE RESTORATION OF THE APEX OF THE NOSE
AFTER IT HAD BEEN BITTEN OFF.

By GURDON BUCK, M.D., New York.

W. W. G., aged 35, a resident of New York city, was brutally attacked on the evening of May 12, 1872, and, during the affray, had the apex of his nose bitten off by his assailant. At the first examination, twelve days after the occurrence, the condition of the parts was found to be as follows:—All inflammatory swelling of the nose had subsided. There

remained a healthy suppurating surface, and the loss of substance included the integument covering the apex and adjacent ridge of the nose as high up as its middle, and also both sides of the nose as far toward the cheeks as a line passing within half an inch of the junction of the nose with the cheeks. The entire bare surface was equivalent to at least one third of the superficies of the organ. The *alæ nasi* were disconnected anteriorly, and both had sustained an equal amount of loss of their anterior portion. The *columna* remained entire, *in situ*, and the denuded ridge of the cartilaginous septum had escaped injury. Fig. 1 shows the condition just described.

FIG. 1.



Operation.—On Saturday, May 25th, an operation was performed at patient's residence, with the aid of Prof. A. C. Post, Drs. T. E. Satterthwaite, J. N. Beekman and N. S. Westcott, as follows: The

Vol. XC. No. 3.

patient was under the anæsthetic influence of ether. After paring the anterior edges of what remained of both alæ, and making them straight, an incision was carried upward in continuation of these edges on both sides of the nose to the inner extremities of the eyebrows. The patch of skin included between these incisions was dissected up from the dorsum nasi and from between the eyebrows. A pattern of the shape of the entire denuded surface was cut from oiled silk and laid vertically upon the right half of the forehead, in an inverted position, immediately above the inner half of the eyebrow, with one edge at the terminus of the incision on the right side of the nose. Short pins were then inserted temporarily in the skin, in an erect position, at intervals, around the margin of the pattern, and at a distance of one line from it, to allow for shrinkage. A much larger allowance, however, was made for shrinkage in the length of the patch of skin. The pattern itself was now dispensed with, and an incision, commencing at the inner extremity of the right eyebrow, where it would be continuous with the incision bordering the patch of skin that had been raised from the nose, was carried upward, along the line of the pins, and onward around the entire circumference of the defined patch. The patch of skin thus outlined was itself dissected up from the pericranium and left connected below at the margin of the orbit, where a branch of the ophthalmic artery emerges to supply the integument of the forehead. The patch of skin already detached from the nose and from between the eyebrows was still farther raised from the pericranium toward the left eyebrow, where it was left connected for support. By this procedure, a continuous bare surface was afforded with which the under surface of the forehead patch of skin would be in contact after being transferred to the nose. The forehead patch was now brought around edgewise from right to left and from above downward, describing in its circuit a semi-circle, and was applied to its appropriate place, which extended downward to the apex of the nose. Special care was taken that there should be no strain at its pedicle where the patch was folded upon itself and where any obstruction of the circulation would endanger its vitality. The adjustment of the edges of the patch to the edges of the space was much facilitated by dissecting up the latter sufficiently to permit them to be everted, and thereby more exactly confronted to each other. Pin sutures, wound with cotton yarn, were inserted at selected points, and fine thread sutures between them to secure the adjustment. The free extremity of the patch was left elongated, and extending beyond the apex of the nose, the intention being to allow the process of shrinking to cease before making an attempt at adaptation. The patch of skin displaced from the nose and from between the eyebrows, and still retaining its connection over the left eyebrow, was carried upward and applied to the surface left bare by the forehead patch, and sufficed nearly to fill up the lower half of that space. The remain-

ing upper portion of the space encroached upon the hairy scalp, and was left to heal by granulation. The two patches of skin, in being doubled upon themselves to reach their new destinations, formed at their pedicles prominent folds in the skin of a flattened, conical shape, one situated over each eyebrow. The uncovered, raw surface upon the upper part of the forehead, which measured nearly three inches vertically and one inch and a half transversely, was covered, first, with a layer of dry scraped lint and then with a second layer of lint saturated with collodion, which soon stiffened and formed an artificial scab, adhering closely to the surrounding surface. Wet applications were avoided, and a layer of woven lint, of double thickness, spread with cerate, was secured over the parts. A few ligatures only were required to secure bleeding vessels, and these were brought out to the surface at the nearest point of exit. The operation occupied about two hours, and was well borne by the patient. The anæsthetic acted kindly.

May 26th.—Patient has had some sleep. A moderate febrile reaction has taken place. The inflammatory tumefaction is moderate. Changed the cotton yarn on the pins. Milk and butter were allowed for nourishment.

27th.—Changed the yarn and commenced removing the alternate thread sutures.

28th.—Removed the pins and additional thread sutures.

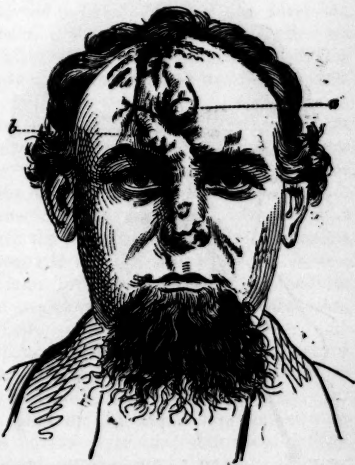
29th.—Removed the remaining sutures.

31st.—Suppuration having loosened the collodion scab, it was removed and a healthy granulating surface was exposed, which, thereafter, was dressed with unguentum basilicum and adhesive plaster.

June 1st.—Primary union has taken place at almost all points. Pus escapes freely from underneath both the elevated folds of skin upon the forehead. Appetite is good. The patient sleeps well and goes out of doors.

28th.—The granulating surface upon the forehead has steadily diminished in size, and now measures half an inch in width and two inches in length. The result of the operation is shown by Fig. 2. A

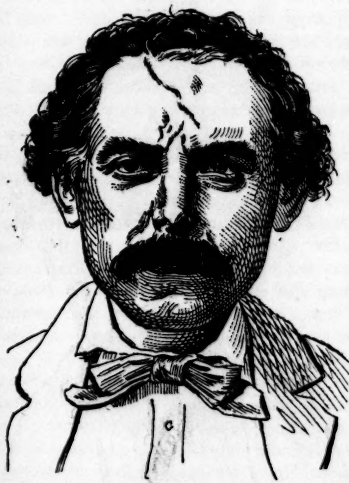
FIG. 2.



second operation was this day performed for the purpose of leveling the prominences—*a* and *b*, Fig. 2—on the forehead, which were situated over the inner half of the eyebrows, and separated from each other by a smooth space nearly an inch in width. They still retained their flattened, conical shape. The operation was as follows:—A curved incision was carried half around the base of each prominence on its broadest side, and the prominence itself raised from its underlying surface, split across, and then unfolded and spread out flat. The redundant portion was then pared away, and the opposite edges matched together and secured by sutures. The redundant extremity of the patch of skin brought down from the forehead and left projecting beyond the apex of the nose, was trimmed away at the proper time, and adapted itself very exactly to its new location.

Fig. 3, showing the final result, is from a photograph, taken Oct.

FIG. 3.



12, 1872. At this time, the following particulars were noticed. The cicatrix on the upper part of the forehead had shrunk to small dimensions, and was easily concealed by the hair. The other cicatrices upon the lower part of the forehead and nose were linear, and but little conspicuous. By daily manipulation of the parts, the skin upon the forehead and nose had become supple and moveable. Sensation, which, for several weeks after the operation, had been referred to the original locality of the part irritated, was at this time referred normally to the actual seat of irritation. The skin covering the lower half

of the nose which had been taken from the hairy scalp, continued to yield its hairy growth, and required to be shaved at short intervals. The patient was, however, waiting a convenient opportunity to have it radically destroyed.

ON PARACENTESIS ABDOMINIS.

By F. GORDON MORRILL, M.D. Harv., Boston.

ALL writers who describe the operation of paracentesis abdominis seem to agree upon the propriety of immediately closing the puncture, after the withdrawal of the trocar, and such is the universal practice of physicians, so far as I have been able to ascertain.

Boyer alone, of the writers whom I have consulted, describes a different course—that of retaining the canula *in situ*—but denounces it as impracticable, on account of its sequences, acute pain, irritation of the viscera and inflammation of the wound, to say nothing of the danger from the entrance of air into the abdominal cavity, which he omits to mention. The few exceptions who proved able to escape, or to endure, these evils, “gained only the advantage of passing large quantities of water through the canula, and eventually died, all the same, of their dropsy”—a result which one would naturally expect.

The books give no definite directions in regard to those cases, by no means infrequent, in which the fluid continues to flow after the removal of the trocar (in spite of the usual precautions to effect its thorough evacuation before withdrawing the instrument), but the classical practice is, I believe, to close the opening as soon as possible.

In speaking of the hæmorrhage, which sometimes results from the injudicious selection, by French surgeons, of a point midway between the umbilicus and the anterior superior spine of the ilium as the proper situation for entering the trocar, Boyer incidentally mentions an expedient of Bellocq's to check the bleeding:—the insertion of a soft and plastic wax bougie into the puncture. On another occasion, Bellocq employed the same means to stop the flow of serum from a patient whose abdomen *would* leak, in spite of the usual applications of plaster or lint, whereby the serum “*en se refroidissant, incommodait beaucoup le malade.*”

A case recently came under my observation, in which the continued flow of serum contributed enough to the patient's comfort to more than counterbalance any inconvenience resulting from it.

X. Y., aged 47 years, presented, on the 1st of September, well-marked symptoms of cirrhosis of the liver and abdominal dropsy, which followed ten years of good living and hard drinking. He had had pneumonia of the right apex twenty months previous to the above date, which resulted in the formation of a cavity and severe hæmorrhages. He had received great benefit from a residence of three months in Madison, Wis., and for some time had had no trouble except a cough, which occasionally annoyed him at night.

Paracentesis abdominis was done on the 13th, the immediate cause being inability to sleep from cough, intense dyspnoea, and failure of the stomach to retain nourishment—all of which symptoms

appeared suddenly, without any perceptible increase of the dropsy. Relief followed, but the fluid soon returned, and by the 18th, his legs and genitals were intensely œdematous, while the cough, dyspnoea and nausea were almost as bad as before. He now refused to be tapped, saying that he "did not see the use, as the whole thing would soon return as before."

On the 24th, he was suffering intensely, and consented to have the operation repeated, and it was immediately done. On withdrawing the trocar, serum continued to flow in quite a stream. I waited some little time, and, finally, went away, telling the male nurse in attendance to renew, from time to time, the cloths which absorbed the fluid, and to apply the usual bit of plaster when the discharge had sufficiently decreased.

The next day, I found that the puncture still remained open, and the flow had continued as great as when I had left him. The patient reported himself feeling very comfortable, and made no complaint of the state of affairs, the nurse having changed the cloths as often as necessary. For nine days, the discharge continued, and during the whole of this time he was free from all distress, while the genitals and legs resumed their natural condition. He was able to get out of bed without assistance, having been perfectly helpless during the greater part of his sickness. At times the puncture could have been easily closed, so slight was the flow, but upon careful probing it would increase.

On the 3d of October, the aperture closed, and, by the 6th, the distention, with its train of distressing symptoms, had returned, together with an intense jaundice. Tapping was again resorted to, with temporary relief, but on the morning of the 8th he sank rapidly, and died the afternoon of that day.

Another instance has come to my knowledge of an old gentleman in whom the puncture remained open six weeks, during which he was far more comfortable than at any other period of his illness.

It would seem that repeated tapplings might in this way be (in certain cases) avoided, and considerable ease be given the patient. Of course, in hospital practice, or among those who cannot command the necessary care required in changing the cloths, such a course would be next to impossible. Should the fluid fall below the level of the puncture, the valvular opening closes of itself, and all danger from air entering the abdominal cavity is avoided.

THE recent fog in London will long be remembered for the discomforts, accidents and mortality resulting from it. Persons in good health suffered from severe headache and smarting of the conjunctivæ. In numerous cases, it proved fatal to persons with cardiac and pulmonary diseases. In some of the hospitals, the death rate was unprecedented. In the Cattle Show, the horned cattle suffered severely from difficulty of breathing, but the sheep and pigs were less affected.

Progress in Medicine.

REPORT ON PHYSIOLOGY.

By H. P. BOWDITCH, M.D.

ELECTRICAL PHENOMENA OF NERVES AND MUSCLES.

Untersuchungen über den Erregungsvorgang im Nerven-und Muskelsysteme. BERNSTEIN. Heidelberg. 1871.

The electrical phenomena of nerves and muscles, first clearly described by Du-Bois Reymond in his work on Animal Electricity, published in 1848, have since then attracted the attention of many able observers, of whom none have been more successful than Professor Bernstein. This investigator has made important contributions to our knowledge of the electrical changes which characterize the functional activity both of nerves and muscles. To make an account of his observations more intelligible, a few words in regard to the fundamental phenomena may be permitted.

In living nerves and muscles, the electrical state is such that if a connection is made between any point of the normal surface, or of a longitudinal section, and any point of a transverse section (or, in the case of a muscle, of the tendon, which represents the transverse section of all the fibres), and a galvanometer is brought into the circuit which forms this connection, it is found that an electrical current is present, running from the longitudinal section through the galvanometer to the transverse section. In other words, every point in the *longitudinal* section of a nerve or muscle is electrically positive with reference to every point in the *transverse* section of the same. Now, if the nerve or muscle be brought into a state of functional activity (either by mechanical, chemical or electrical stimulation), it is found that the current passing through the galvanometer is diminished in intensity, i. e., the difference between the electrical conditions of the longitudinal and transverse sections becomes less. This is known as the "negative variation" of the nerve- or muscle-current.

By means of extremely delicate and ingenious instruments, it has been shown that the negative variation is first felt in those parts of the nerve or muscle which are in the immediate neighborhood of the point where the stimulus is applied, and that it afterwards makes its appearance at points successively more and more distant, while disappearing at the points where it had first appeared. In other words, the negative variation is transmitted with a wave-like motion along the nerve or muscle in both directions from the point stimulated.

The nature of this wave-like motion has been carefully investigated by Bernstein, who has determined, both for muscles and nerves, the rate of transmission, the length and duration of the wave. The following are the mean values obtained in experiments on frogs:—

Wave of Negative Variation.	Muscle.	Nerve.
Rapidity.	2.927 met. in 1"	27.7 met. in 1"
Length.	10 mm.	18.7 mm.
Duration.	0.0039"	0.00068"

From this table, it will be understood that, when a muscle is stimu-

lated at any one point, the electrical condition of the muscle at that point is changed, that this changed electrical condition is propagated wave-like in both directions at a rate of 2.927 metres in 1", that each portion of the muscle requires 0.0039" to go through this changed condition and return to its normal state, and that the distance measured on the muscle between a point which is just entering upon and one which is just leaving this changed electrical condition is 10 mm. The same may be said of nerves, with a change of the figures.

Now, the rapidity of the wave of *negative variation in nerves* agrees quite closely with the value found by Helmholtz for the rapidity of *nerve force*, viz., 26.4 metres in 1". (This value was obtained by noting how the time elapsing between the irritation of a nerve and the consequent contraction of the muscle attached to it varied according as the stimulus was applied at a distance from or close to the muscle.*) This close correspondence of the two phenomena in regard to rapidity, together with the fact that the height of the wave of negative variation, i. e., the amount of the electrical change, increases with the intensity of the stimulation, clearly indicates that a very close relation exists between the manifestation of nerve force and the change in the electrical condition of the nerve, and may even be considered as furnishing a sufficient reason for regarding the latter as a measure of the former. This is important, for we are thus furnished with a means of determining whether a nerve is functionally active or not, by an examination of the nerve itself, instead of inferring the activity of the nerve from that of the organs (muscles, glands, &c.) to which it is distributed.

Consider next in what way muscular contraction is related to the electrical phenomena of muscle. When any point of a long muscle is irritated, a contraction takes place at that point, i. e., the muscle becomes, at that part, thicker and shorter, and this change of form is transmitted, wave-like, along the muscle in both directions from the point stimulated. The rapidity with which this contraction wave moves along the muscle, may be investigated by placing delicate levers at different points on the surface of the muscle, and allowing their extremities to record their movements on a revolving cylinder covered with smoked paper. The time elapsing between the rise of the different levers measures the rapidity of the contraction wave passing under them. Measurements, made in this way by Aebyst and Marey,† showed that the contraction wave of the frog's muscle moves at the rate of about one metre in 1". This rapidity is only about one third of that of the wave of negative variation, as given above. It would, therefore, seem that the connection between functional activity and electrical condition is not so close in the muscle as in the nerve. Bernstein, however, in a series of carefully conducted experiments, has obtained the following figures as mean values of many experiments :—

		Wave of muscular contraction.
Rapidity,	- - - - -	3.8 metres in 1"
Length,	- - - - -	289 mm.
Duration,	- - - - -	0.0784".

* See this JOURNAL, January 5th, 1872, p. 54.

† Fortpflanzungsgeschwindigkeit der Reizung in der quergestreiften Muskelfaser. Braunschweig. 1862.

‡ Du mouvement dans les fonctions de la vie. Paris. 1868.

It will thus be seen that the rapidity of the contraction wave is quite as great as that of the wave of negative variation. One reason why Aeby and Marey obtained a smaller value is, probably, that they failed to take into account the diminution which the contraction wave undergoes as it passes along the muscle. Bernstein regards the two rates as identical, and considers the difference in the figures which he obtained as due to errors of observation, thus recognizing the same relation between the phenomena in muscles as in nerves.

Still more conclusive evidence of the close connection existing between the phenomena is obtained by an examination of the length and duration of the waves in question. According to the above values, a contraction wave has a length of 289 mm., moves at the rate of 3.8 metres in 1", and occupies 0.0784" in passing a given point. Now, if any point of a muscle be irritated by induction shocks 13 times in 1", these contraction waves will follow each other so rapidly that one wave will reach a given point of the muscle just as its predecessor is passing away from that point. In other words, each muscular element will have no sooner returned to a state of repose after the passage of one contraction wave than it will be again brought into activity by the arrival of the following wave. If the irritations succeed each other with somewhat greater rapidity (e. g., 20 times in 1"), the contraction waves will overlap each other, and the muscular elements brought into activity by one wave will not have time to return to a condition of repose before the arrival of another wave, i. e., the whole muscle will be in a state of continual or tetanic contraction. This agrees perfectly with the observation that a frog's muscle may be tetanized by irritating it 18 or 20 times in 1".

Now, if the irritations follow each other still more rapidly, there is at first no change in the nature of the contraction. The tetanus merely becomes more and more perfect by the more complete overlapping of the contraction waves. But when the frequency of the irritation reaches about 300 in 1", it is found, according to Bernstein, that a single momentary contraction is produced at the *beginning* of the irritation, while *during* the irritation the muscle remains at rest; i. e., the muscle stimulated 300 times in a second fails to respond by a contraction, though the same stimulus, when applied less frequently, is sufficient to produce tetanus. If, now, the intensity of the irritation is increased, while the frequency is kept constant at 300 in 1", a feeble tetanus is found to follow the momentary commencement contraction. This tetanus may be still further increased by increasing the intensity of the irritation; but, if the frequency of the irritation be increased, the tetanus disappears and the muscle remains at rest. It will thus be seen that when a muscle is stimulated 300 times and upwards in 1", it will always respond by a momentary contraction at the *beginning* of the stimulation, but that, *during* the stimulation, a tetanus will be produced only by a more intense stimulus than would be necessary if it were less frequently applied. In other words, the more rapid the stimulation (above 300 in 1"), the more intense must it be in order to produce tetanus. These results are obtained equally well whether the irritation is applied to the nerve or to the curarized muscle, which indicates that they depend upon peculiarities of the muscle and not of the nerve.

Now, if we consider the course of the wave of negative variation of
Vol. XC. No. 3A.

a muscle, we shall find an explanation of the above phenomena. According to the values above given, this wave has a length of 10 mm., and moves at the rate of 2.9 metres in 1". Therefore if a muscle is irritated 300 times in 1", the waves in question will follow each other so rapidly that they will begin to overlap each other, and the more they overlap, the more complete will be the state of negative variation in which the muscular elements are kept. In other words, the more rapid the irritation (above 300 times in 1"), the more permanent will be the electrical condition of the muscle, since the muscular elements have less time to return to their normal condition between the passage of the successive waves. The fact that the rapidity of irritation which causes the overlapping of the waves of negative variation is about the same as that which causes the appearance of the commencement contraction, and the disappearance of the tetanus, leads Bernstein to the conclusion that every muscular element must go through the condition of negative variation as a necessary preliminary to contraction, and that the extent (or, more strictly speaking, the suddenness) of this change of electrical condition determines the extent of the contraction.

Bernstein's theory may then be briefly stated as follows. If any point of a muscle be irritated with a single induction shock, a wave of negative variation, 10 mm. in length, starts immediately from the point irritated, and moves in both directions along the fibre, at the rate of about 3 metres in 1". This is followed, after an interval of about .01" (period of "latent irritation" of Helmholtz), by the contraction wave, having a length of 239 mm. and a rapidity the same as that of the wave of negative variation. If irritations follow each other with a rapidity greater than 20 and less than 300 in 1", the contraction waves overlap each other, while the waves of negative variation (or "irritation waves," as Bernstein calls them) do not, and the muscular elements, in consequence of the incessant change of their electrical condition, are kept in a state of continued activity, and tetanus results. If irritations succeed each other oftener than 300 times in 1", the irritation waves overlap each other, and the first wave is, therefore, the only one which exerts its full effect on the muscular elements, the effect of the other waves being diminished in proportion to the completeness of the overlapping. The result is, therefore, a strong "commencement contraction" and a tetanus enfeebled or entirely absent.

If a similar relation between the rapidity of irritation and functional activity be supposed to exist in nerves, we should expect that if a nerve were irritated about 1600 times in 1", the irritation waves would overlap each other and the activity of the nerve be diminished. The question is difficult to decide experimentally, for the contraction of a muscle cannot be used as an indication of the activity of the nerve distributed to it, since muscles, as explained above, cease to contract at a rapidity of irritation far less than 1600 in 1". Von Wittich has shown (*Pfuger's Archiv*, ii. p. 329) that when the skin is irritated mechanically from 1728 to 3840 times in 1" the separate irritations blend into one continuous impression. Bernstein is inclined to regard this as the effect of the overlapping of irritation waves, and, considering that we do not know the length of the irritation wave in human nerves, the agreement of the figures is, perhaps, as near as could be expected.

In this connection should be mentioned the experiments of Grun-

hagen, on intermittent irritation of nerves (*Pflüger's Archiv*, vi. p. 157). The apparatus employed was a steel spring rubbing against the edge of a revolving toothed wheel, by which means from 1460 to 10980 interruptions in 1" could be produced. This interruptor was introduced either into the same circuit with the nerve, or into a side circuit from the same battery. The result was to irritate the nerve by a rapid succession of galvanic currents of exceedingly short duration. These experiments cannot, therefore, be compared with those of Bernstein, in most of whose observations the irritation was produced by induction shocks caused by the making and breaking of a mercury contact by means of the vibrations of a steel spring. It is interesting, however, to notice that the results were, in general, the same, though Grünhagen adopts a different explanation from that of Bernstein. Both observers found that the stronger the single irritations were, the more rapidly must they follow each other in order to insure the disappearance of tetanus.

Setchenow also studied the effect of irritations rapidly following each other (*Pflüger's Archiv*, v. p. 11), using for this purpose induction shocks produced by the interruptor of Froment (*Comptes Rendus*, 1847). He observed essentially the same phenomena ("commencement contraction," disappearance of tetanus, &c.) that were noticed by Bernstein, but, inasmuch as they only occurred when the irritation was made by closing the primary circuit, the nerve being included in the secondary circuit, and were not observed when the irritation was caused by the breaking of a side current in the secondary circuit, Setchenow regards the phenomena as physical in their nature, and dependent upon the construction of the apparatus rather than upon peculiarities of the nerve.

In answer to this criticism, Bernstein (*Pflüger's Archiv*, v. p. 318) calls attention to the fact that in his experiments the phenomena in question were observed when the irritation was produced by breaking a side current in the secondary circuit, and, consequently, cannot be explained by physical processes in the electrical apparatus. He attributes the discrepancy between his own results and those of Setchenow to difference in the apparatus employed, and regards as objectionable any instrument which (like Froment's) makes and breaks a circuit by the vibration of a spring against a solid support, for the spring, being thus prevented from completing its vibration, will not vibrate with regularity.

ELECTROTONUS.

Bernstein has also recently contributed to our knowledge of electrotonic changes of irritability (*Pflüger's Archiv*, viii. p. 40). For a statement of the fundamental phenomena of electrotonus, suffice it to say that when a constant current of electricity is conducted through a nerve, the irritability is increased in the neighborhood of the kathode, and diminished in that of the anode, i. e., an irritation applied to the nerve near the point where the constant current enters must be stronger than if applied near the point where it leaves the nerve, in order to produce a contraction of the muscle to which the nerve is distributed. Now, as the negative variation of the nerve current is regarded, for the reasons given above, as the measure of the functional activity of the nerve, we should expect it to be diminished in anelectrotonus and increased in katelectrotonus. In other words, we

should expect that an irritation, applied to a nerve near the kathode of the polarizing current (i. e., the current used to produce the electrotonic changes of irritability), would produce a more intense wave of negative variation than an irritation applied near the anode. This is found to be the case provided the polarizing current is applied at a considerable distance from the point where the negative variation is examined and irritations of feeble intensity are used. When, on the contrary, the polarizing current is applied near the point where the negative variation is examined and strong irritations are used, the opposite is found to be true, i. e., the negative variation increases in anelectrotonus and decreases in katelectrotonus.

To explain this apparent contradiction, and to determine whether anything analogous could be observed when a muscular contraction is used as an indication of nervous activity, was the object of Bernstein's recent investigations. The experiments consisted in conducting a polarizing current of constant intensity through a frog's nerve, and then applying successive irritations, viz., induction shocks of gradually increasing intensity, in the neighborhood of one of the poles. The contractions of the muscle, under the influence of these stimuli applied to the nerve, were recorded and compared with those which the same muscle executed when the nerve was simply irritated by induction shocks without the use of any polarizing current. The result showed that as long as the induction shocks were of feeble intensity, the ordinary phenomena of electrotonus manifested themselves, i. e., increased irritability near the kathode, and diminished irritability near the anode. When, on the other hand, the induction shocks were made strong enough to produce the maximum contraction of the muscle, the opposite result was obtained, i. e., a greater contraction was produced by an irritation near the anode, and a feebler contraction by an irritation near the kathode. The law of electrotonus is, therefore, according to Bernstein, to be stated as follows:—

When a constant current flows through a nerve, it is found that at the positive pole the production of a state of functional activity is rendered more difficult, so that feeble irritations have less effect than in the normal condition (anelectrotonus); but the maximum of activity which can be produced by strong irritations is increased. At the negative pole, on the contrary, the production of a state of activity is rendered easier, so that feeble irritations have greater effect (katelectrotonus); but the maximum of activity which can be produced by strong irritations is lessened. In other words, the nervous molecules in anelectrotonus are less easily moved, but, when set in motion by a sufficient force, are capable of producing greater effects than in the normal condition. The opposite is true in katelectrotonus.

This modification of the law of electrotonus will undoubtedly find important applications in electro-therapeutics.

(To be concluded.)

JACOBI's food for children is prepared as follows: Crack a teaspoonful of barley in a common coffee-mill, then boil it fifteen minutes in a gill of water, adding a pinch of salt. Then strain, and for a young child add one-half as much cow's milk as you have barley-water, and, whilst tepid, nurse from a nursing-bottle. Sweeten slightly with sugar. If the bowels are costive, use oatmeal in place of barley. Keep the bottle clean.—*Philadelphia Medical Times.*

Reports of Medical Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. W. L. RICHARDSON, M.D.,
SECRETARY.

Uterine Polypus.—Dr. MINOT reported the case and showed the specimen, which he removed from a patient of Dr. J. W. Lovering, of Essex.

The patient was the wife of a farmer, and was 30 years of age. She had had three children, the youngest having been born eighteen months ago. Four months after the birth of this child, she began to have hæmorrhage from the womb, which constantly increased, until the woman was reduced to an alarming condition. She was completely blanched, and the pulse was very feeble. Apparently as a last resort, she consulted Dr. Lovering, who at once detected the tumor. An examination showed the tumor lying wholly in the vagina, and connected with the interior of the uterus by a short pedicle, three-fourths of an inch thick.

With the assistance of Dr. Lovering, of Essex, and Dr. Garland, of Gloucester, a loop of annealed wire was slipped over the tumor, and connected with an *écraseur*. Before the pedicle was cut through, however, the wire broke, and the section was completed with the scissors. The patient was fully etherized during the operation. In shape, the tumor was nearly globular, the diameter measuring about three and a half inches; the weight was one pound. On account of its size, some difficulty was experienced in removing it from the vagina. It was of the ordinary fibroid variety. The patient did well.

Dr. Minot said there was some doubt, at first, as to the diagnosis of the case. It was thought it might be an inversion of the womb. Owing to the great size of the tumor, which completely filled the vagina, it was very difficult to make a thorough examination, but after the patient was etherized the whole hand could be insinuated into the vagina, so that the stalk of the polypus could be felt, and the disproportion between its diameter and that of the tumor was too great for that of an inverted uterus. Moreover, there was no history of the latter accident.

Dr. C. P. PUTNAM alluded to the fact that, not unfrequently, the hæmorrhage is at once arrested by incising the tumor, as though the bleeding had been caused by the stretching of the mucous membrane.

Dr. MINOT also showed a uterine polypus, of the ordinary fibroid variety, weighing three and a half ounces, of about the size and shape of a tomato, which he had removed from a patient of Dr. A. B. Hall, of Boston. The tumor was almost wholly in the vagina, attached to the lower part of the interior of the uterus by so short a stalk that it was impossible to reach it with the curved scissors, and it was accordingly removed by means of the *écraseur*, a wire loop being placed around it. The patient was a widow, 65 years old, who had had hæmorrhage, at times very profuse, for more than fifteen years. She had been under the care of several physicians, but no examination had been made until she was seen by Dr. Hall. She made an excellent recovery.

Herpes Zoster Frontalis.—Dr. DRAPER reported the following case as

illustrative of the differential diagnosis between erysipelas and herpes zoster frontalis.

The patient was a man, 60 years of age. At the time of the first visit, there was a diffused redness, rather dull in color, extending over one side of the forehead, and embracing the region supplied by the supra-orbital nerve. The eye was injected, and the appearances, at first view, closely resembled those seen in erysipelas; but the disease was readily distinguished by the early, though scanty, development of the typical vesicles, and by the acute neuralgic pain, which the patient especially complained of. The redness lasted ten days, but the pain persisted for some time after the redness had subsided.

Dr. WILLIAMS said that in herpes there was often a dilatation of the pupil noticed. The pain, however, was the marked distinguishing symptom.

Local Action of Bichromate of Potash.—Dr. GREEN gave an account of three cases, lately seen by him, which exhibited the local effect of bichromate of potash on the nose. They occurred in workmen of a large chemical manufactory, who were exposed to the dust of the salt, which, by lodging on the mucous membrane of the nose, caused ulceration. In one of the cases, the entire cartilaginous septum had been destroyed, and the whole nasal mucous membrane was in a state of purulent inflammation; in another, there was a large and deep ulceration on the septum, without perforation; while, in the third, the whole membrane of the septum was dotted with minute ulcerations. In the first case, the disease had been mistaken for syphilis. The removal of the men from their work, strict cleansing of the parts with a syringe, and the application of mild stimulating lotions, checked the ulcerations immediately, and soon restored the membrane to a healthy condition. By the use of cotton-wool respirators, as suggested by Tyndall, the men afterwards resumed their work, and have continued free from trouble.

Almost every one in the factory had been more or less affected by the dust of the salt; some with ulcers on the hands and body, others with nausea, and almost all with more or less purulent nasal catarrh. The severity of the symptoms was generally proportional to the amount of the dust to which the persons had been exposed.

Dr. Green said a few cases were on record where a similar cause had produced ulceration and necrosis of the cartilages of the larynx.

Dr. DRAPER said that he had seen the same ulcerations of the nasal septum, to which Dr. Green had alluded, in workmen who were employed in paper manufactories where arsenic was used.

Head Symptoms in Rheumatism.—Dr. WILLIAMS reported the case.

An Englishman, unaccustomed to our climate, had an attack of rheumatism, which, after shifting to different parts of the body for two weeks, at length gave rise, suddenly, to marked cerebral symptoms. His pupils were strongly contracted, though he had not taken opium. Slight delirium was noticed, and there was pain in the head. The pulse was 120. Ice was applied to the head, and hot applications made to the feet, and he had half an ounce of sulphate of magnesia. The next morning, he was reported as very comfortable.

Dr. HASKINS had seen a case in which rapid increase of temperature had been followed by the same head symptoms which Dr. Williams had described.

Dr. SINCLAIR had also seen a similar case at the City Hospital.

Dr. WEBBER had made an autopsy on two patients who had died under similar circumstances. Nothing was found, however, but an increase of serum between the membranes of the brain, and some opacity, but not more than is frequently seen without cerebral symptoms.

Infantile Menstruation.—Dr. INCHES reported the case.

The second day after birth, some blood was noticed on the baby's diaper. On separating the labia, it was distinctly seen flowing from the vagina. The color was dark red. The flow continued for six days, and then ceased. The child is now nearly a year old, but there has been no recurrence of the discharge. The labor had been perfectly normal.

Bibliographical Notices.

The Student's Guide to Medical Diagnosis. By SAMUEL FENWICK, M.D., F.R.C.P., Assistant Physician to the London Hospital. From the Third Revised and Enlarged English Edition. With eighty-four illustrations on wood. Philadelphia: Henry C. Lea. 1873. 12mo. Pp. 328.

THIS little book ought to be in the possession of every medical student, who will find in it valuable assistance, to enable him to study successfully the diagnosis of the principal medical diseases. It contains directions for the proper method of clinical study, and a sketch of the chief symptoms of each disease, particular attention being paid to the methods of physical examination, whenever available in diagnosis. The illustrations are remarkably good, and the printing is really beautiful—far in advance of that of most medical books published in this country. The present edition contains everything which the most recent advances of medical science have contributed to the improvement of diagnosis. Although intended for the use of students, the book will be found very convenient to the practitioner as a condensed manual of diagnosis.

BOOKS AND PAMPHLETS RECEIVED.

The Liberal Education of the Nineteenth Century. By Prof. Wm. P. Atkinson, of the Massachusetts Institute of Technology. New York: D. Appleton & Co. 1873. Pp. 28. (From A. Williams & Co.)

Report of the Health Officer of the City and County of San Francisco for the Fiscal Year ending June 30, 1873. By Henry Gibbons, Jr., M.D. San Francisco: Spaulding & Barto. 1873. Pp. 46. (From A. Williams & Co.)

Casuistische Mittheilungen über Bronchitis Crouposa. Von Dr. Karl Bettelheim. Wien. 1873. Pp. 11.

Transactions of the Michigan State Medical Society for the year 1873. Pp. 1870.

G. P. PUTNAM'S SONS, New York, have in preparation:—A Translation, by Drs. M. D. Mann, and S. B. St. John, of the recent work by Professor Ludwig Buhl, of Munich, on Inflammation of the Lungs, Tuberculosis and Consumption.

Boston Medical and Surgical Journal.

BOSTON : THURSDAY, JANUARY 15, 1874.

MORE than a year ago, the necessity for the establishment of public urinals in our city was discussed in the JOURNAL, and arguments were drawn upon the side of the public sanitary interests and from the salutary usages of other cities at home and abroad to urge their adoption here. Nothing has as yet been done, however, to forward the scheme proposed. Our community is slow in taking up sanitary reforms. It required a terrible epidemic to bring about the long needed revolution in the administration of the municipal health-ordinances. What analogous calamity affecting the bladders of the community, the City Fathers included, will effect the result we allude to, it is impossible to say.

We do not believe it necessary to reiterate the arguments which have been already used, or to refute false notions of public morality which might be adduced adversely to the plan. The physical and sanitary aspects of the subject are beyond dispute, and we do not believe public morality would suffer greatly even if a retreat were established in immediate, even conspicuous, proximity to the thoroughfares of the city—on the Common and elsewhere.

Facts, moreover, carry more weight than arguments, and to one of these facts we wish to call attention before dismissing the matter here. Our city readers know that on the Flagstaff Hill of the Common is the only public urinal which the city possesses. During the year just ended, over 200,000 persons, or to be accurate, 201,663 men and boys visited this place for urination. The keeper states that at least 2,500 females asked, through their male companions, if they could be accommodated there, and, of course, they were refused admission, there being no provision for such applicants.

Let us, in conclusion, put the blame of delinquency where it belongs. We are assured that the Board of Health is entirely harmonious in this matter, and, being composed of reasonable and progressive gentlemen, it would have gladly established the public urinals in Boston long ago. But the Board cannot make bricks without straw—it cannot pay for improvements without money. When the City Council is asked next month for an appropriation for this purpose, it will be seen where the trouble lies.

TYPHOID FEVER has broken out in the University of Cambridge, England, and many of the students have been sent home in conse-

quence. Caius College is the principal sufferer. The buildings are new, the sanitary arrangements perfect, the water pure, and the milk, which, from the suddenness of the outbreak, was at first suspected to be the source of infection, has been proved to be excellent in every respect. "The most feasible explanation of the outbreak," says the *British Medical Journal*, "is the escape of sewer air from the imperfectly trapped drains."

THE *Lancet* says, "The worry to those engaged in literary pursuits, caused by the noisy transit of wheels over stones and granite, is injurious alike to thought and temper, and induces a tension only relieved when, as the Bigelow Paper has it, 'Silence, like a poultice, comes to heal the blows of sound.'"

"Silence, like a poultice," did not come quite quickly enough to ensure to the *Lancet's* literary man the proper amount of "relief" before he looked up his apt quotation. Mr. Hosea Bigelow does not spell his name like the well-known Professor of Surgery, nor did he write the line quoted. The simile was applied at the time of the musical Jubilee in Boston, in 1869, and its author was not Prof. Lowell, but another "Professor," otherwise known as Dr. Oliver Wendell Holmes. It is too bad that a medical gentleman so well known should be robbed of his laurels by a medical journal, and, of all medical journals, by the *Lancet*.

THE ANTICIPATION OF POST PARTUM HÆMORRHAGE.—Dr. Atthill has an article on this subject in the *British Medical Journal* of Nov. 1, 1873.

After enumerating the causes which commonly produce *post-partum* hæmorrhage, viz.:—Exhaustion of the uterus; exhaustion of the nervous system of the mother; the too rapid emptying of the uterus, whether as regards the foetus or placenta; the failing to give due support to, and the injudicious manipulation of, the uterus after the expulsion of the placenta, he discusses the treatment of hæmorrhage arising from either of these causes. Throughout the article, he deprecates the indiscriminate and too implicit reliance upon ergot, and concludes as follows: "Give ergot in cases of labor in which you suspect that *post-partum* hæmorrhage is likely to occur, but do not rely on it exclusively. When symptoms, indicating that the power of the uterus is flagging, show themselves, prevent that exhaustion becoming excessive by the use of the forceps; when you do use them, use them as *aids* to the uterus, not as *substitutes* for its action. Give the uterus time to contract after the birth of the child, and to throw off the after-birth, keeping up in the interval firm pressure on the fundus with the left hand; then support the abdomen by the good old-fashioned binder, and the risk of *post-partum* hæmorrhage will be small. I do not mean to say that by the adoption of this or any other treatment *post-partum* hæmorrhage will be entirely averted; that is impossible, but the risk of its occurring will be reduced to a minimum."

The Hospitals.

MASSACHUSETTS GENERAL HOSPITAL.

(Saturday, January 3, 1873.)

OPERATIONS were performed in the following cases:—Cancer of Breast, Cancer of Lip, Tumor of Leg, Harelip, Felon, Nævus, Tumor of Eyelid, Caries of Carpus, Dysphagia, Tumor of Nates. During the week, Synovitis of Knee-joint.

Cancer of Breast—a spherical and painful growth of eight months' duration; exceptional, because the patient was a single woman, only 27 years old. It was adherent to the skin, and projected three inches from the surface. Dr. Bigelow included the disease and adherent skin in two semi-lunar incisions, and dissected the tumor from its attachments. It proved to be closely adherent to the pectoralis major. The axillary glands were not involved.

Cancer of Lip—in a man of 45. The disease was comprised in a superficial ulcer of the size of a five-cent piece. Dr. Cabot removed it by a V incision.

Large Myxo-Sarcomatous Tumor of Leg—in a woman 35 years of age. The disease first appeared two years ago, and has gradually increased. Within two months, it has doubled in size. It occupies the popliteal space, and extends laterally around the sheath of the tendon of the biceps, measuring eight inches in length by five in breadth; lobulated, quite firm and somewhat movable. Dr. Bigelow stated that, although it had both the general feel and the lobes of a fatty tumor, yet, if the patient could be relied on, the growth had been too rapid for fat. The alternatives were sarcoma, and, possibly, in part a bursal enlargement, which is not uncommon in this region. An exploratory incision was made into the most prominent portion of the tumor, which proved to be myxo-sarcomatous in appearance, being slimy, and somewhat resembling the raw flesh of a fish. Immediate microscopic examination confirmed this diagnosis. The operator remarked that the removal of this tumor, which was certain to recur at once, would involve so gratuitous a risk and delay to the patient, that it was hardly justifiable. The wound was united by sutures, and the question of amputation will be submitted to her.

Harelip.—An adult patient had been operated upon in infancy. There was now a notch in the lip, also a widely-dilated nostril on that side. Dr. Cabot made an incision into the nostril, cut a strip one-fourth of an inch wide from one side of the fissure and sewed up the remaining wound.

Necrosis of Jaw—in a child six years of age. The disease occupied the horizontal ramus; a portion only of the sequestrum was loose; this, with a neighboring loose tooth, was removed through the mouth, by Dr. Bigelow, with forceps.

Harelip—single, with cleft palate, in an infant. Dr. Cabot pared the borders of the fissure and united them, as usual, by sutures.

Felon—of ring-finger, with sloughing tendon and necrosed phalanges. Dr. Bigelow amputated just below the metacarpo-phalangeal articulation, saying that it was better to divide a phalanx than, by disarticulation, to open the palm.

Nævus—hairy, and on the side of the neck and face. Its area measured one and a half by two and a half inches. Dr. Cabot applied fuming nitric acid.

Epithelial Cancer of Eyelid—on the external surface of the lower lid of a woman, 50 years old. It was excised by Dr. Bigelow.

Caries of Carpus—in a man of 35. Pain and swelling on dorsum of hand for more than a year without known cause; latterly, both had increased. Dr. Cabot made an incision into the swelling and found pus and denuded bone, but none loose. The wound was left open and a water dressing applied.

Dysphagia—in a man, supposed to be due to the swallowing of a fish-bone, about a week since. On exploration of the pharynx, by Dr. Bigelow,

nothing abnormal could be seen or felt. He then passed a bristle probang down to the stomach twice, but no foreign body was drawn up. He then passed an ivory probang into the stomach. No stricture was detected, though Dr. B. remarked that a commencing stricture of the œsophagus often first announced itself by a sensation resembling that caused by the lodgement of a foreign body. On the other hand, the sensation of a pin or fish-bone was experienced long after such bodies had been dislodged. The patient was directed to report again.

Tumor of Nates—in a woman. It was situated upon the ischial tuberosity, and had been the source of inflammation, pain and annoyance for months. From its external appearance, Dr. Bigelow thought it promised to be an inflamed, fatty tumor. Excision verified this view.

Large Synovitis of Knee-joint—of two years' standing, in a man 32 years old. He had received the benefit of splints, compression, iodine and blisters, without much relief. Dr. Bigelow withdrew three and a half ounces of turbid synovia from the joint with Dieulafoy's aspirator, but thought he could have done it better with a small hydrocele trocar. H. H. A. BEACH.

BOSTON CITY HOSPITAL.

THE surgical operations of last Friday, January 9th, were as follows:—A Re-amputation of the Leg was performed by Dr. Cheever. The patient was an adult male. The primary amputation was performed in September last, the point of operation being the junction of the middle and lower thirds of the limb. Soon after the wound healed, the patient began to suffer great pain in the stump, and, three weeks ago, he entered the hospital for relief. There was no evidence of neuromata, but there was a sharp prominence of the end of the tibia which explained the pain. Rest, opium and local treatment had been tried without success, and amputation now offered the best chance for the comfortable adaptation of an artificial leg. The operation was performed in the middle third of the leg, anterior and posterior skin-flaps being dissected to cover the stump.

A case of Pistol-shot wound of the Thigh was operated on by Dr. Thorndike, the patient being a man of twenty-five years. The ball had entered in the middle of the thigh, posteriorly, passing downwards and forwards. The man entered the hospital two days after the injury, with the lower part of the thigh greatly inflamed. The bullet could not be traced. Now, after five days more, the inflammation had so far receded as to make an exploration practicable. Six inches below the wound of entrance, a somewhat elongated, deep-seated induration could be felt beneath the edge of the vastus externus muscle. On the supposition that this was the site of the bullet, the indurated region was cut down upon; it was found to be composed of fragments of the femur which had been splintered off by the ball. The missile, having thus comminuted the bone, had glanced and was lost in the soft tissues.

Dr. Cheever operated on a case of Caries of the Femur, in a young woman with a syphilitic history. Two sinuses in the thigh, one external and the other on the inner side, led to a denuded surface on the posterior aspect of the femur, which was softened and rough. The sinuses were enlarged, and the carious portion of the bone was freely exposed, so as to allow of the escape of any exfoliated particles.

In the three operations above described, application of Esmarch's method for controlling hæmorrhage was made. The limb was bandaged from the extremity of the toes to the groin with a rubber roller-bandage, three inches wide and five yards long, applied tightly. While the roller was still in place, a piece of rubber tubing, half an inch in diameter, was passed twice around the thigh above the roller and tightly tied in a square knot. The bandage was now removed. The effect was to deprive the limb of blood. In each

case, the method was successful; in the amputation, less than half a drachm of blood escaped, while the exploratory operation was absolutely dry.

Dr. Thorndike performed Perineorrhaphy in the case of a patient in whom rupture of the perineum had occurred with her first labor, six years ago. Three labors had occurred since. The rent involved the perineum to, but not through, the anus; and it had received no primary treatment. Dr. Thorndike removed the cicatricial tissue from the two surfaces of the fissure and apposed the refreshed edges with iron-wire sutures. Finally, he passed a silver-wire suture around the wound, encircling the other sutures, so as to give additional support and to diminish the tension the of parts.

Dr. Cheever performed an operation for Harelip in the case of an adult male, affected also with extensively fissured palate. The harelip was single and on the right side. To economize tissue, and to cover the large opening in the lip, Dr. Cheever operated as follows. The part of the lip toward the median line was split obliquely inwards from the margin of the mucous membrane. On the other side of the fissure, an incision was made from the ala nasi downward to the mucous margin of the lip, and this narrow part of tissue was divided in the centre, thus making two flaps, a quarter of an inch in width. The lower of these flaps was made wedge-shaped, and was dovetailed into the slit on the other side of the fissure and retained by sutures, to make the line of the lip entire. The upper flap served, on being carried across above the lower, to complete the lip just below the nostril. Sutures and an hour-glass shaped piece of adhesive plaster held the parts in place.

Other operations, the details of which are omitted, were as follows:—Epithelioma of Leg, Necrosis of the Lower Jaw, Bony Cyst of the Lower Jaw, Phosphorus Necrosis of the Jaw, and three cases of Radical Treatment of Hydrocele.

On Tuesday, January 6th, Dr. Cheever performed a Plastic Operation to Cover the Testes, Bulb of the Urethra and Perineum.

The patient froze his scrotum by lying exposed by the side of a railroad, when intoxicated, four weeks since. The testes are wholly denuded; the tunica vaginalis has sloughed off, and the tunica albuginea is granulating. The denudation extends up on the spermatic cords, and, also, on to the bulb and the perineum.

Dr. Cheever cited a parallel case in the hospital three years ago, where the scrotum and one testis had been torn away, and the penis flayed by a revolving winch. In this case, the testicle was pocketed by Dr. Cheever under the skin of the groin. The patient pursued his daily work without inconvenience. But when seen, some months later, the testis appeared softened and atrophied. A similar fate was apprehended for the testes in the present case, but the only other alternative was castration, and the patient had a right to try any chance to save his virility.

In neither of these cases was there any trouble with the urethra.

Operation.—The puckered and contracted remnants of the skin of the scrotum and perineum were dissected up, freshened, pared and matched so as to cover, without tension, the bulb and the perineum. The testes, already separated by the sloughing away of the septum, were drawn aside into either groin. A large, semi-circular flap of skin, with a broad root toward the perineal and lower sides of the thigh, was dissected up from each groin, and the testes allowed to fall into the raw surface and rest against the base of the flaps. The skin flaps were now folded over the testes, and stitched to the new skin of the urethral bulb, to the skin near the pubes, and to the fascia of the denuded surface on the groins; silver sutures were used. The urethral bulb, perineum and testes were completely covered in by one continuous layer of apposed flaps of skin; and the denuded surfaces on the outer aspect of either groin were left to granulate. By adducting the feet, bandaging together the knees and placing a large pillow under them, all the new flaps were freed from tension. Cold water dressing was applied, and a catheter was directed to be passed regularly.

F. W. DRAPER.

Correspondence.

YELLOW FEVER IN SHREVEPORT, LA., 1873.

NEW ORLEANS, December 25, 1873.

MESSRS. EDITORS.—My observations upon the epidemic diseases of the Mississippi Valley during the present year (1873) would be incomplete without some account of the recent severe epidemic of yellow fever in Shreveport, La. In the present communication, I desire to record such authentic facts as I have been able to gather from various sources.

Location, Population and Medical Topography of Shreveport.

The city of Shreveport is situated on the left bank of Red River, about thirty miles below the great raft, just above the thirty-second degree of North Latitude, in the parish of Caddo.

According to the United States Census of 1860, the population of Caddo Parish was 4,733 whites, 69 free colored and 7,338 slaves; total, 12,196. The population of Shreveport included in the preceding statistics was, white male, 1,287; white females, 859; free colored males, 20; females, 24; aggregate, 2,190.

The United States Census of 1870, shows a considerable increase, and, according to the *Shreveport Times* of the 15th of November, the population fluctuates between ten thousand in the summer, and fourteen thousand in the winter, and is composed largely of unacclimated persons, from different parts of the United States and European countries. Drs. Bruns, Choppin and Davidson, of New Orleans, who visited Shreveport during the recent epidemic, in their report to the Howard Association, thus describe the medical topography and sanitary condition. "The business portion of the city, consisting of compact blocks of stores and warehouses, chiefly of brick, fronts the river on a bluff, considerably elevated above high-water mark, and sloping downwards for a few hundred yards, rises, with occasional undulations, into a semi-circle of hills, deeply ravined, around which is scattered a large suburban population. The natural advantages for drainage are excellent, but these have been utterly neglected, and a rain of a few hours converts the town into a morass. Most of the blocks, in the heart of the city, are bisected by alleys, into which the refuse and garbage of the houses are thrown. A sanitary police is unknown, and the only scavengers are hogs, which roam the streets at will, turning them into cess-pools, destroying the pavements, and exposing fresh surfaces of earth everywhere to air and sun."

Sanitary Condition of Shreveport.

So early as January, 1873, the accumulated filth in the alleys of the city, which intersect the blocks, began to be offensive; spring came and passed, and there untouched, lay, in the almost tropical sun of summer, the accumulated filth of many months, in the very heart of the city. The most public thoroughfares of the city were neglected and uncleaned; stagnant water, rotten garbage and animal excrement filled the gutters; the refuse of hotels and boarding houses in every portion of the city ran out of the private sewers into the streets, and there rotted and contaminated the atmosphere; dead dogs, cats and rats remained where they had fallen, and the streets and alleys became their cemeteries. The whole city is said to have been enveloped in a disgusting odor, from midnight to day.

Such is said to have been the sanitary condition of Shreveport, at the time of the breaking out of the epidemic; and if it be possible to generate, in this latitude, yellow fever, by a combination of filth, heat and moisture, the conditions were certainly present for the origin of the pestilence *de novo*.

History of the Epidemic.

The spring and early part of the summer appeared to have been as healthy as usual; the malarial fevers of the country did not attract special attention, either by their numbers or severity. The heat of June and July was severe, and, in August, the number of cases of malarial fever began to increase and the type was more malignant.

It is said that the first case of yellow fever, which attracted attention, died on the 18th of August. On the night of the 19th of August, a reporter entered the *Times* office and announced that three men had fallen dead at the front of the Mechanics' Exchange, on Texas Street. From subsequent inquiries, it proved that of three men who had been wandering about sick, two lay down and died, and that the other expired before he could be got to the hospital. The case which died on the 22d of August is said to have been, without doubt, yellow fever. From this date, the disease spread rapidly, and its terrible mortality induced the belief that it was different from the ordinary malarial fever of this region. Towards the first of September, persons began to leave the city; the alarm spread rapidly through the country, business began to decline, and a feeling of gloom pervaded all classes.

On the night of the 1st of September, the physicians assembled in the office of Dr. Snell, and, after a prolonged deliberation, rendered their final judgment that yellow fever existed, but not in an epidemic form. The publication of the proceedings of this meeting, in the *Times* of the next morning, was almost immediately followed by the precipitate flight from the city of all who were able to leave. "Every train that went out was crowded to overflowing, and hundreds stood by to await the next one. A terrible dread seemed to seize the people, in the presence of the invisible death that was among them, and, in a few days, the city seemed almost depopulated; the stores were closed, and the streets were virtually deserted." A call was made for the organization of an association to look after and provide for the sick poor, and, on the 3d of September, the Howard Association of Shreveport was organized. The disease continued to increase, and, up to the evening of the 13th of September, there had been one hundred and forty-six deaths. The epidemic, at this time, was approaching its climax. There were not over four thousand souls, white and black, remaining in the city, and of these not less than eight hundred were sick. "It seemed as if no one was recovering; the doctors were worn out and disheartened; the streets were absolutely abandoned and silent, and one might walk squares without meeting a living object; every store and place of business was closed; nobody was to be seen, except at the headquarters of the Howard Association. There were scarcely enough men left to nurse the sick; we no longer had funerals; the hearses, followed by one or two carriages, dashed through the streets, like sections of artillery in a battle, seeking a position; enough men were drummed up, often with difficulty, to lift the coffin into the hearse, and the body was borne away to the cemetery as swiftly as decency would permit. This was the case even with our most prominent citizens."

On the 15th of September, the mortality was greater than at any time during the epidemic; on that day, the deaths numbered thirty-nine. For many days after, the number fluctuated between fifteen and twenty; whole families were swept away, and commercial firms, partners and clerks, were literally blotted out of existence. About the 17th of September, the fever began to attack the suburban population.

There was a decided diminution in the average of deaths per day after the 24th of September, and, on the 30th, the epidemic in the city showed signs of abatement. During the month of October, the fever slowly declined, and intermittent fever and dengue made their appearance, and, on the 15th of November, all vestiges of the disease had disappeared.

Statistics of the Epidemic.

The following figures are mere approximations:—Population, July previous to epidemic, 9,000; during the epidemic, between 4,000 and 4,500. Of these, 1,500 were negroes.

Number of cases of fever, 2,600; number of deaths, 759. Of these, about 120 were negroes.

Mortality, about 30 per cent.

It is believed that a larger proportion of persons recovered from black vomit in this than in any previous epidemic.

Respectfully,

JOSEPH JONES, M.D.

Medical Miscellany.

APPOINTMENT.—Dr. James A. Latimer, of Cambridge, has been appointed, by the Governor, physician to the State Prison, in place of Dr. A. P. Hooker, recently deceased.

DR. BARNES, Surgeon-general U. S. A., has recently been elected, by a vote of forty-two out of forty-six, a corresponding member of the Academy of Medicine of France.

THE EFFICIENCY OF ENEMATA.—Gustav Simon has succeeded in demonstrating that a stream of water forced into the rectum by means of a syringe may be made to penetrate the entire length of the large intestine, and possibly extend, also, into the small intestine. His experiments were performed upon two separate patients, each of whom happened to have a fistulous opening in the ascending colon, near its junction with the cæcum.—*Archiv für Klinische Chirurgie.*

ARTIFICIAL PRODUCTION OF RICKETS AND MOLLITIES OSSIUM.—C. Heitzman has shown by experiment that mollities ossium and rickets are identical processes, which may be produced artificially in animals by giving them lactic acid. In carnivora, the continued use of lactic acid causes first rickets and then mollities ossium, while in herbivora it produces mollities at once, without rickets.—*London Medical Record.*

EARLY PREGNANCY.—Mr. Macnamara, in a late number of the *Indian Medical Gazette*, relates a case of a mother only ten and a half years old. The labor was six hours long, and the mother proved an excellent wet nurse. There were five generations present in the same house. Mr. Macnamara has often known instances in which Hindoo females have had children at twelve and thirteen years of age.

FORMULA FOR UNGUENTUM ALTHÆÆ, OR MARSHMALLOW OINTMENT.—*R.* Lard, 1 pound; curcuma, 2 drachms; water, 4 drachms; yellow wax, burgundy pitch, of each, 6 drachms. Boil the lard, curcuma and water together, until all the moisture has disappeared; then add the wax and pitch, strain while hot, and stir while cooling.—*Prussian Pharmacopeia.*

RARE INJURY.—In Vienna, a man was recently entangled in some tackle moved by steam power, and was drawn with great rapidity against a cross-beam, where his clothing caught. Here his whole right upper extremity and shoulder-blade were torn off, and he fell to the ground, minus these parts. The wound healed at the end of the seventh week without a bad symptom.—*Wiener Medizinische Zeitschrift*, Nov. 11, 1873.

INHALATION OF OXYGEN IN THE TREATMENT OF HYDROPHOBIA.—Laschkewitsch administered inhalations of oxygen to a peasant who, ten weeks before, had been bitten by a mad wolf. The tetanic muscular contractions ceased, the cyanosis disappeared, and the exacerbations of violence gave place to a quiet, gentle condition. A fatal result followed, but it was attributed to the inattention of the nurses, who discontinued the oxygen inhalations.—*Dublin Medical Press and Circular.*

TOPICAL USE OF CHLORAL.—MM. Beaumetz and Hirne employ chloral as a caustic application in the treatment of inveterate specific or non-specific ulcers. The solution they use is composed of:—Hydrate of chloral, five grammes; distilled water, twenty grammes. M. Martineau employs a one per cent. solution of chloral as a dressing for bed sores in typhoid fever. Dr. Erasmus Paoli has also obtained good results from the employment of an aqueous solution of hydrate of chloral (10 grammes to 30 grammes of water) in the dressings of soft chancres and of chancreous, even phagedenic, buboes; although painful, the application of this solution will be found less so than the touching with a stick of nitrate of silver.—*Irish Hospital Gazette.*

IMPERFORATE HYMEN.—D. Lloyd Roberts, Manchester, England, reported before the British Medical Association, at its last session, the notes of this case, as follows:—The patient was a girl, aged twenty. Under chloroform, a small exploratory trocar was introduced, and after it a larger trocar, through which 84 ounces of thick fluid escaped; and, during the subsequent fortnight, from 15 to 20 ounces exuded. Some feverish symptoms and abdominal pains set in, but subsided; and, subsequently, the opening was enlarged with bougies and the membrane divided on each side. The patient recovered.—*The Obstetrical Journal of Great Britain and Ireland.*

TOO AERIAL.—At a recent trial of some tea merchants at Birmingham, for the sale of adulterated tea, it was admitted by the defence that the articles in question contained a considerable quantity of both *iron* and *sand*, but it was argued that these substances were either blown on the leaves while growing, or taken up in process of drying. This argument appears to have struck the judge as too aerial for credence, and he quietly remarked that "if the soil of China were so very rich in iron, it would pay to import it for smelting."

ANTI-ASCARIDES.—Fifty years ago, none of my family came to an untimely end from injections of carbolic acid, which is now thought to be certain death to a **PIN WORM.**

MESSERS. EDITORS.—Will some of your readers kindly inform me as to the effect exerted by *camphor dentifrices* upon the teeth. I remember to have heard it said that the essential oil of camphor readily penetrated the enamel, diminishing its hardness, and thus inducing caries, and have been somewhat surprised to learn that many preparations for the teeth sold by our druggists, contain a large amount of powdered camphor, some being almost exclusively of this article. **DENS.**

MESSERS. EDITORS.—In your issue of Feb. 20, 1873, occurs the following:—

"Mr. Bryant warns against the so common use of coffee as a vehicle for quinine. When a solution of the sulphate of quinine is put into tea or coffee, there occurs a decomposition of the salt, and the almost insoluble and insipid tannate of quinine is formed. This compound is almost inert, and the administration of quinine in this way, therefore, is one of the worst ever devised."

In the *JOURNAL* of yesterday we read:—

"It is not generally known that the bitter taste of quinine may be effectually concealed, while the efficacy of the drug is retained, by combining it with tannic acid. Ten grains may thus be deprived of its taste by one and one-half grains of the acid."

Will some one who knows inform us whether tannate of quinine is worthless, and oblige **INQUIRER.**

Boston, Jan. 9, 1874.

DIED.—In Newton, Jan. 6, Dr. T. P. Robinson, aged 48.—In North Brookfield, Jan. 6, Dr. Joshua Porter, aged 64.—In Santa Barbara, Cal., Jan. 6, of consumption, Dr. P. A. O'Connell, of Boston, aged 39.

MORTALITY IN MASSACHUSETTS.—Deaths in sixteen Cities and Towns for the week ending January 3, 1874.

Boston, 153—Charlestown, 10—Worcester, 13—Lowell, 23—Milford, 4—Cambridge, 18—Salem, 7—Lawrence, 4—Springfield, 13—Lynn, 12—Gloucester, 9—Fitchburg, 2—Newburyport, 5—Somerville, 5—Fall River, 31—Pittsfield, 7. Total, 316.

Prevalent Diseases.—Consumption, 68—scarlet fever, 25—pneumonia, 24—typhoid fever, 13.

Of the deaths from scarlet fever, nine were in Fall River.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Jan. 10th, 139. Males, 70; females, 69. Accident, 4—apoplexy, 4—disease of the brain, 4—bronchitis, 5—burned, 1—consumption, 27—convulsions, 3—carbuncle, 1—croup, 1—cyanosis, 1—cerebro-spinal meningitis, 1—diabetes, 1—diphtheria, 1—debility, 4—dropsy, 5—dropsy of the brain, 2—dyspepsia, 1—erysipelas, 3—typhoid fever, 4—scarlet fever, 12—disease of the heart, 4—disease of the liver, 1—inflammation of the lungs, 14—congestion of the lungs, 3—marasmus, 3—old age, 2—peritonitis, 1—pleurisy, 1—premature birth, 3—puerperal disease, 5—rheumatism, 2—scrofula, 1—smallpox, 1—teething, 1—tumor, 1—ulcers, 1—whooping cough, 1—unknown, 5.

Under 5 years of age, 53—between 5 and 20 years, 14—between 20 and 40 years, 29—between 40 and 60 years, 22—over 60 years, 21. Born in the United States, 97—Ireland, 24—other places, 18.